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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: RIEDER, H. ET AL-3 PCT  
PCT NO.: PCT/AT2004/000331 FILED: SEPTEMBER 30, 2004  
SERIAL NO.: 10/574,402 FILED: APRIL 3, 2006  
TITLE: INFRARED (IR) RECEIVING DEVICE

**SUBMISSION OF INTERNATIONAL PRELIMINARY EXAMINATION REPORT**

MAIL STOP AMENDMENT  
Commissioner of Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

Attached hereto is a copy of the International Preliminary Examination Report.

It is hereby requested that receipt of this International Preliminary Examination Report be acknowledged by the Patent Office.

Respectfully submitted,  
RIEDER, H. ET AL-3 PCT

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Enclosures: Copy of International Preliminary Examination Report

I hereby certify that this correspondence is being deposited with the U.S. Postal Service as first class mail in an envelope addressed to: Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on October 18, 2006.

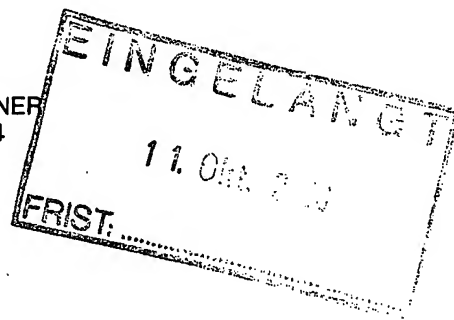
  
Kelly Espitia

**PCT**

NOTIFICATION OF TRANSMITTAL  
OF COPIES OF TRANSLATION  
OF THE INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY  
(CHAPTER I OR CHAPTER II  
OF THE PATENT COOPERATION TREATY)  
(PCT Rules 44bis.3(c) and 72.2)

To:

SONN & PARTNER  
Riemergasse 14  
A-1010 Wien  
AUTRICHE



Date of mailing (day/month/year) 05 October 2006 (05.10.2006)	
Applicant's or agent's file reference R 43949	IMPORTANT NOTIFICATION
International application No. PCT/AT2004/000331	International filing date (day/month/year) 30 September 2004 (30.09.2004)
Applicant EFKON AG et al	

## 1. Transmittal of the translation to the applicant.

☐

The International Bureau transmits herewith a copy of the English translation of the international preliminary report on patentability (Chapter I).

☒

The International Bureau transmits herewith a copy of the English translation of the international preliminary report on patentability (Chapter II).

## 2. Transmittal of the copy of the translation to the designated or elected Offices.

The International Bureau notifies the applicant that copies of that translation have been transmitted to the following designated or elected Offices requiring such translation:

KR

The following designated or elected Offices, having waived the requirement for such a transmittal at this time, will receive copies of that translation from the International Bureau only upon their request:

AE, AG, AL, AM, AP, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EA, EC, EE, EG, EP, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OA, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

## 3. Reminder regarding translation into (one of) the official language(s) of the elected Office(s).

The applicant is reminded that, where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary report on patentability (Chapter II).

It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned within the applicable time limit (Rule 74.1). See Volume II of the PCT Applicant's Guide for further details.

The International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland

Authorized officer

Yolaine Cussac

**TRANSLATION****PATENT COOPERATION TREATY****PCT****INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>R 43949</b>	FOR FURTHER ACTION	See Form PCT/IPEA/416
International application No. <b>PCT/AT2004/000331</b>	International filing date (day/month/year) <b>30.09.2004</b>	Priority date (day/month/year) <b>08.10.2003</b>
International Patent Classification (IPC) or national classification and IPC <b>H04B10/158, H04B10/10, H04B10/22</b>		
Applicant <b>EFKON AG</b>		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.	
2. This REPORT consists of a total of <u>5</u> sheets, including this cover sheet.	
3. This report is also accompanied by ANNEXES, comprising:	
a. <input checked="" type="checkbox"/> (sent to the applicant and to the International Bureau) a total of <u>3</u> sheets, as follows:	
<input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).	
<input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.	
b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s))	
_____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).	
4. This report contains indications relating to the following items:	
<input checked="" type="checkbox"/> Box No. I	Basis of the report
<input type="checkbox"/> Box No. II	Priority
<input type="checkbox"/> Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
<input type="checkbox"/> Box No. IV	Lack of unity of invention
<input checked="" type="checkbox"/> Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
<input type="checkbox"/> Box No. VI	Certain documents cited
<input type="checkbox"/> Box No. VII	Certain defects in the international application
<input type="checkbox"/> Box No. VIII	Certain observations on the international application

Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/AT2004/000331

Box No. 1

Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language \_\_\_\_\_ which is the language of a translation furnished for the purposes of:
- ☐ international search (Rule 12.3 and 23.1(b))
- ☐ publication of the international application (Rule 12.4)
- ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:
- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 1-14 \_\_\_\_\_ as originally filed/furnished
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☒ the claims:
- nos. \_\_\_\_\_ as originally filed/furnished
- nos.\* \_\_\_\_\_ as amended (together with any statement) under Article 19
- nos.\* 1-10 \_\_\_\_\_ received by this Authority on 11.08.2005 with letter of 08.08.2005
- nos.\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☒ the drawings:
- sheets 1/5, 3/5-5/5 \_\_\_\_\_ as originally filed/furnished
- sheets\* 2/5 \_\_\_\_\_ received by this Authority on 11.08.2005 with letter of 08.08.2005
- sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (specify): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (specify): \_\_\_\_\_
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (specify): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (specify): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/AT2004/000331

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. Statement

Novelty (N)	Claims	1-10	YES
	Claims		NO
Inventive step (IS)	Claims	1-10	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-10	YES
	Claims		NO

## 2. Citations and explanations (Rule 70.7)

**1.1 Technical field**

Infrared receiver device with IR detector elements in a matrix arrangement for receiving IR signals from a communications zone.

**1.2 Prior art**

US-A-6 486 994 (document D1), which is considered to be the prior art closest to the subject matter of claim 1, discloses the following (the references in parentheses are to D1):

An infrared receiver device (see figures 5 and 6) with infrared detector elements (see 12, 23 and 33 in figure 6) for receiving IR signals from a communications zone (see figure 3, and column 7, lines 20 to 24; the communications zone is formed by the 90° segments grouped around the detector), and a processing circuit for deriving electrical signals corresponding to the received IR signals, wherein the processing circuit (see figure 2, together with the checking program running on the PC (figure 5)) has a maximum value detector circuit which is connected to the IR detector

Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement

elements (see step 106 in figure 5, and column 8, lines 38 to 55) and selects a maximum output signal from the output signals of each of the IR detector elements for the purpose of deriving the electrical signal.

### 1.3 Problem addressed

The problem addressed by the invention is that of how to simplify the circuit for detecting maximum values from the receiving levels of individual IR detector elements.

### 1.4 Solution

The aforementioned problem is solved by using diodes in a thresholding device (11) and comparator (12) to rectify the output signals of the IR detectors (8.1) before further processing. In D1, software is used to detect the maximum values, and this would lead a person skilled in the art away from the claimed invention. There is nothing in either D1 or any of the other available prior art documents that would lead the skilled person in an obvious way to the claimed circuit arrangement. Claim 1 is therefore novel and inventive (PCT Article 33(2) and (3)).

### 1.5 PCT Article 34(2) (b)

Claim 1 is based on claims 1, 5 and 6 in the original application.

### 2.1 PCT Article 6

The phrase "are provided" in **claims 1 and 3** does not limit the claim to the meaning "are", and is therefore

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

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Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement

unclear (PCT Article 6). Consequently, for the purposes of the examination of these claims in respect of novelty and inventive step, the phrase has been construed to mean "are".

- 2.2 The structure of the diode arrangement in **claim 1** is not clearly defined. Figure 4 shows two diodes 14.1a and 14.1b connected downstream of the detector 8.1. Contrary to what is stated in claim 1, these diodes are connected together on the side facing the IR detector (see also the last paragraph on page 9 of the description). The inconsistency between claim 1 and this embodiment of the invention casts doubt on the interpretation of the claim, and therefore claim 1 is unclear (PCT Article 6).